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10/631,916

07/31/2003

Jian Qin

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EXAMINER

CHAPMAN, GINGER T

ART UNIT

PAPER NUMBER

3761

NOTIFICATION DATE

DELIVERY MODE

06/30/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/631,916 | Applicant(s) QIN ET AL. | |
| | Examiner Ginger T. Chapman | Art Unit 3761 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 and 26-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-25 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the claims:

Claims 1-40 are pending in the application; claims 1-12 and 26-39 are withdrawn from consideration as being directed to a nonelected invention.

Withdrawn rejections:

The rejection of claims 13-17, 24-25 and 40 under 35 USC 112, second paragraph, made of record in a previous Office action, is withdrawn in view of Applicants' amendment to the claims.

Response to Arguments

1. Applicant's arguments filed May 18, 2007 have been fully considered but they are not persuasive.
2. Applicant argues the following:
3. I. The instant invention includes neutralized polyacrylic acid while Beihoffer et al (WO 99/25393) teaches away from neutralized polyacrylic acid because it is susceptible to salt poisoning and the goal of Beihoffer is to overcome the issue of salt poisoning (Remarks, p. 11/14).
4. II. Nambu et al (US 5,883,158) is directed to a high absorbency SAP and cannot have the claimed gel stiffness property as defined in the present application because, "The gel stiffness of

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the present invention requires low absorbency and high absorbency under a load of 0.9psi.”

(Remarks, p. 12/14, last paragraph.)

5. With respect to I: This argument is not persuasive because Beihoffer does not teach away from polyacrylic acid, Beihoffer expressly teaches including polyacrylic acid. For example, at p. 9-10, Summary of the Invention: “The present invention is directed to multicomponent SAPs comprising at least one acidic water absorbing resin, such as polyacrylic acid...”

6. Beihoffer expressly teaches the use of polyacrylic acid and modifying or treating the polyacrylic acid to partially overcome the salt poisoning effect. See p. 50, Example 1, p. 54-57, Examples 8- 12, Example 15. See p. 5, ll. 1-15; p. 21, l. 4; p. 29, ll. 19-20.

7. With respect to II: This argument is not persuasive because the prior art teaches that absorbency, absorbency under load and the SAP ability to retain fluids and therefore the gels stiffness value is, in part, a function of surface treatments such as degree of crosslinking, making the gel stiffness and absorbency result-effective parameters and it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

8. Additionally, the examiner notes that superabsorbent material having the claimed property of gel stiffness are available commercially under the designation SXM 9543, a cross-linked sodium polyacrylate based (anionic) polymer having a gel stiffness of about 0.93, made by Stockhausen, Inc. of Greensboro, N.C., U.S.A. Therefore, the claimed property is known in the prior art and does not lend additional patentable weight.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 13-25 and 40 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Beihoffer et al (WO 99/25393).

With regard to claims 13 and 21, as seen in Figure 3A, Beihoffer et al disclose a surface treated absorbent material (30) comprising a superabsorbent material (32) comprising a cross-linked polymer (p. 12, ll. 20-26) comprising at least about 75 weight percent anionic polymer (p. 23, l. 12; p. 29, ll. 10-13; p. 33, l. 28-32), and a surface treatment (34) applied to the substantially the entire outer surface of the superabsorbent material, as recited in claims 21, said surface treatment comprising a water soluble non-crosslinked polymer comprising about 50 weight percent cationic polymer (p. 10, ll. 2-7; p. 37, l. 9).

With regard to the limitations of a gel stiffness index of at least 0.8 as tested by test methods set forth by Applicant:

Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. §§ 102 and 103, expressed as a 102/103 rejection. “There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. § 103 and for anticipation under 35 U.S.C. § 102.” *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 U.S.C. § 102/103 rejection is appropriate for these types of claims as well as for composition claims.

“[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, supra.

There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of invention, but only that the subject matter is in fact inherent in the prior art reference. *Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1373, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003).

“[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency’ under 35 U.S.C. § 102, on prima facie obviousness’ under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same...[footnote omitted].” The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, supra). MPEP § 2112.

Beihoffer discloses the absorbent material is of the same type and formed in the same manner as the instant invention. The instant specification discloses at [0047-8] that it is the charges between cations and anions exposed at the surfaces of the particles following discharge of body fluids that inhibit inter-particle movement that provides the open voids between particles and thus the swelling constraint that results in the gel stiffness and gel permeability parameters of the material (see p. 23, ll. 1-4; p. 4, ll. 9-11 and p. 9, ll. 25-26). Therefore it is inherent in the material that it exhibits a stiffness index of at least 0.8.

In the alternative, Beihoffer, at p. 9, ll. 25-26 expresses the desire for a permeable surface treated absorbent material having particles spaced sufficiently apart such that they do not contact each other after absorbing discharged body fluids and swelling from the absorption, and thereby does not deform under the applied stress or pressure of being worn, i.e. stiffness. As seen in Figures 7-9, Beihoffer teaches such absorbent material. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the absorbent material of Beihoffer having a stiffness index of at least 0.8 since it has been held that

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discovering an optimum value of a result effective variable involves only routine skill in the art.

In re Boesch and Slaney, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In an alternative interpretation of the invention for anticipation under 35 USC § 102, in order for someone to actually determine whether or not a particular product meets the limitations of the instantly claimed invention requires subjecting such a product to the claimed test, making claim 13 a product-by-process claim.

Product-by-process claims are not limited to the manipulations of the steps, only the structure implied by the steps. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). MPEP § 2113.

Regarding the alternative rejection of claim 13 under 35 USC § 103, generally, differences in test characteristics will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such test characteristic is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or

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workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

Regarding claim 13, the benefits of stiffness and permeability would have been known prior to applying a test, making these values result-effective variables. One of ordinary skill in the art would have recognized that maintaining open voids between the particles would result in a gel stiffness index. MPEP § 2144.04.

When the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). When the examiner shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not. *In re Spada*, 911, F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

The burden of proof has thus shifted to applicant to come forward with evidence establishing that the prior art products do not necessarily or inherently possess the characteristics of the claimed product. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980).

With regard to claims 14-17, 24-25 and 40, no structure is previously disclosed for the material, and therefore the absorbent material of Beihoffer fulfills the claimed limitations. With regard to the limitations of gel stiffness, gel permeability, centrifuge retention capacity and a free swell gel bed permeability, Beihoffer discloses the absorbent material is of the same type and

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formed in the same manner as the instant absorbent material. The instant specification discloses at [0047-50] that the superabsorbent material is surface treated with a polymer having a charge opposite that of the superabsorbent material that provides the above noted parameters. Beihoffer discloses the structure and material of the claimed invention, and the ability of the material to provide the above noted parameters is inherent in the structure. Beihoffer discloses the claimed material and thus fulfills the claimed limitations either expressly or inherently.

In the alternative, Beihoffer discloses in c. 3, ll. 5-20, the ability of the polymer to have gel stiffness and permeabilities and retention, and thus discloses a desire for polymers exhibiting such properties. Therefore, even though Beihoffer is does not perform the same tests as Applicant and therefore does not claim results of those tests, the properties are inherent to the material. Therefore it would be obvious to one having ordinary skill in the art at the time the invention was made to use a surface treated absorbent material since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416.

With regard to claim 18, Beihoffer discloses the cationic polymer is polyvinyl amine (p. 10, l. 3).

With regard to claim 19, Beihoffer discloses the concentration of the cationic polymer is in the range of about 0.05 to about 5 weight percent of the superabsorbent material (p. 49, ll. 25-30).

With regard to claim 22, Beihoffer discloses the surface treatment comprises at least about 70 weight percent cationic polymer (p. 34, l. 31).

With regard to claim 23, Beihoffer discloses the surface treatment further comprises in the range of about 0.5 to about 5 grams per weight of water per 1 gram weight of superabsorbent material (p. 44, ll. 5-11).

Claims 13-25 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nambu et al (US 5,883,158).

With regard to claims 13-25 and 40, Nambu et al disclose the invention substantially as claimed except for the surface treatment comprises in the range of about 0.5 to about 5 grams weight of water per 1 gram weight of superabsorbent material. Nambu et al teach at c. 5, ll. 24-30 that the amount of water is a parameter that effects whether the cross-linked structure is formed on the outer surface of the particle or is formed on the inside surface of the particle. Therefore the amount of water is a result effective variable in the known process of forming the structure of the absorbent material and it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the amount of water known in the prior art to form the treatment at the desired surface since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering optimum or workable ranges of a result effective variable involves only routine skill in the art. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginger T. Chapman whose telephone number is (571)272-4934. The examiner can normally be reached on Monday through Friday 9:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on (571) 272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Ginger T Chapman/
Examiner, Art Unit 3761
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